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B23B 27/14**C22C 29/16**(21)Application number : **02-175081**(71)Applicant : **MITSUBISHI MATERIALS CORP**(22)Date of filing : **02.07.1990**(72)Inventor : **UEDA FUMIHIRO
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YAMAMOTO KAZUO****(54) CUTTING TOOL HAVING CUTTING EDGE PART FORMED OF CUBIC BORON NITRIDE SINTERED SUBSTANCE**

(57)Abstract:

PURPOSE: To improve toughness of a cutting edge part and to prevent the generation of a crack at an interface with a base metal part made of a cemented carbide alloy by a method wherein the average grain size of cBN of a cutting edge part and an intermediate part formed of a cubic boron nitride Sintered substance is set to a specified value, and the cutting edge part is formed of a cBN sintered substance.

CONSTITUTION: A cutting part is formed of a cubic boron nitride sintered substance of a composition consisting of 15-40 volume % a titanium carbide, a titanium nitride, a titanium carbon nitride, and a titanium boride as a coupling phase forming component, 5-30 volume % an aluminum oxide, and a remaining cubic boron nitride and inevitable impurities. An intermediate part is formed of a cubic boron nitride sintered substance of a composition consisting 10-50 volume % a titanium compound, 5-20% aluminum, and a V remaining cubic boron nitride and inevitable impurities. The cutting edge part is joined with a base metal part made of tungsten carbide cemented carbide alloy through the intermediate part to form a cutting tool. In the cutting tool, the average grain size of cubic carbon nitride of the cutting edge part is set to 2 μ m or less and the average grain size of cubic boron nitride of the intermediate is set to 2-10 μ m.

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